OLSSON, FRANK AND WEEDA, P. C.

PHILIP C. OLSSON
RICHARD L. FRANK
DAVID F. WEEDA
DENNIS R. JOHNSON
ARTHUR Y. TSIEN
JOHN W. BODE +
STEPHEN D. TERMAN
MARSHALL L. MATZ
MICHAEL J. O'FLAHERTY
JOHN R. FLEDER
DAVID L. DURKIN
DAVID G. ADAMS
+ ADMITTED IN OKLAHOMA ONLY

ATTORNEYS AT LAW
SUITE 400
1400 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036-2220
(202) 789-1212
FACSIMILE (202) 234-3537

NEIL F. O'FLAHERTY
CHRISTINA M. MARKUS
TISH E. PAHL
LILY W. SU
BRETT T. SCHWEMER
ALFONSO C. FULLER, JR. △
KAREN A. REIS +
△ ADMITTED IN MARYLAND ONLY

OF COUNSEL
MICHELE F. CROWN

December 13, 1996

BY HAND DELIVERY

Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: WT Docket No. 96-198; FCC 96-382 -- In the Matter of Implementation of Section 255 of the Telecommunications Act of 1996; Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment by Persons with Disabilities

Dear Sir or Madam:

On behalf of the American Academy of Audiology, enclosed please find an original and nine copies of a supplemental comment for filing in the above-referenced docket.

Thank you for your attention to this matter. Please contact me if you have any questions.

Sincerely,

Christina M. Markus

OFW:cmm
Enclosures

cc: Ms. Rita McDonald,
Policy Division, Wireless Telecommunications Bureau
(by hand delivery; hard and computer file copies)

AMERICAN ACADEMY OF AUDIOLOGY

8201 Greensboro Drive, Suite 300, McLean, VA 22102

December 13, 1996

BY HAND DELIVERY

Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: WT Docket No. 96-198; FCC 96-382 -- In the Matter of Implementation of Section 255 of the Telecommunications Act of 1996; Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment by Persons with Disabilities

Dear Sir or Madam:

This letter supplements our October 31, 1996 comments on the Federal Communications Commission's (FCC) above-referenced Notice of Inquiry. As indicated in the earlier submission, the American Academy of Audiology (AAA) is very pleased that the FCC has undertaken prompt action to implement the Telecommunications Act of 1996. It is absolutely essential to ensure that telecommunications technology -- which is a basic, and increasingly important, tool in today's society -- is accessible to people with hearing loss and other disabilities.

AAA submits the following background information relating to hearing loss to assist the Commission in developing appropriate rules on telecommunications service and equipment accessibility.

1. How widespread is hearing loss?

Hearing loss is one of the most widespread chronic conditions affecting the U.S. population. The National Institute on Deafness and Other Communication Disorders (NIDCD) has approximated that 28 million people -- more than 10 percent of Americans -- have a hearing problem of some kind.[1] This number is predicted to grow even larger as the national population ages.

[1] NIDCD Fact Sheet, citing "National Strategic Plan for Hearing and Hearing Impairment" (1992), data confirmed July 1996.

The incidence of hearing loss increases with age. Relative to the general population, the percentage of individuals with hearing loss is estimated at[2]:

- Under 18 years old --1.6 percent[3]
- 18 to 44 years old -- 5.3 percent
- 45 to 64 years old -- 13.7 percent
- 65 to 74 years old -- 22.9 percent
- Over 75 years old -- 31.9 percent

Across the population of persons with hearing loss, the National Center for Health Statistics in 1990-91 reported that, without hearing aids (using the Gallaudet Hearing Scale)[4]:

- 68.9 percent of respondents could not hear or understand spoken or whispered words (estimated mild to moderate hearing loss). This equates to approximately 19,292,000 people in the United States today.

- 24.7 percent of respondents (i.e., approximately 6,916,000 people today) could not hear and understand words shouted across a room (estimated moderate to moderately-severe hearing loss).

- 3.6 percent of respondents (i.e., approximately 1,008,000 people today) could not hear and understand words shouted in their ear (estimated severe hearing loss).

---

[2] American Speech-Language Hearing Association, "Communication Facts, 1996 Edition," citing Adams, P.F., & Marano, M.A., "Current Estimates from the National Health Interview Survey, 1994."

[3] According to statistics reported by the American Academy of Otolaryngology-Head and Neck Surgery, approximately 3 million children are affected by permanent hearing loss that will impact their development. Based on the experience of its members, AAA estimates that there are at least another 5 million children affected by fluctuating hearing loss, caused by continual ear infections, that will impact development and education.

[4] National Center for Health Statistics (NCHS), "Prevalence and Characteristics of Persons with Hearing Trouble: United States, 1990-91."

- 2.8 percent of respondents (i.e., approximately 784,000 people today) could not hear and understand speech (estimated profound hearing loss).

We note that the Hearing Industries Association (HIA) has estimated 87 percent of people with hearing loss -- i.e., over 24.3 million Americans -- admit to having a hearing problem.[5]

2. How many people in the U.S. use hearing aids?

Approximately 18 to 24 percent of people with hearing impairments use a hearing aid (i.e., about 5 to 6.7 million people).[6] Taking into account hearing loss prevalence, fitting practices, and hearing aid sales data, AAA calculates that people with moderate hearing loss are the most prevalent group of hearing aid users; these people also are most likely to purchase a custom hearing aid (e.g., in-the-ear, canal, half-shell, or completely-in-the-canal hearing aid). Older adults purchase almost 65 percent of hearing aids.

Hearing aids are believed to be the third most widely used assistive device in the U.S., after glasses and canes. According to recent HIA quarterly statistics, hearing aid sales fit the following categories[7]:

- 36 percent -- custom in-the-ear (ITE)
- 21 percent -- behind-the-ear (BTE)
- 21 percent -- canal in-the-ear (ITC)
- 12 percent -- completely-in-the-canal (CIC)
- 5 percent -- half-shell
- 3 percent -- low profile
- 2 percent -- stock canal, eyeglass, body, miscellaneous

As a general rule, the milder a hearing loss, the smaller the hearing aid a person can wear and still derive desired benefits (e.g., ITE, CIC hearing aids).

---

[5] 1986 HIA Survey.

[6] NCHS, "Prevalence and Characteristics of Persons with Hearing Trouble: United States, 1990-91." This means that 75 percent or more of people with hearing loss do not use hearing aids.

[7] HIA Statistical Report, October 16, 1996.

It is important to note that people with hearing loss who do not use hearing aids may be doing so for a variety of reasons, including cost, lack of information or access to care, a perceived lack of value or benefit from use of a hearing aid, or a feeling that their hearing loss "isn't bad enough" for use of an assistive device. One of the professional goals of audiologists is to increase public awareness and acceptance of hearing loss, and subsequently hearing aids and other rehabilitative tools and practices.

3. How does hearing loss affect telecommunication usage?

People with hearing loss are often unable to use, or to maximize benefits from the use of, a telephone without technological assistance. Currently, telecoils built into hearing aids, and TTY or relay services, are two mechanisms in place to assist people with various degrees of hearing loss in using wireline phones. Many phones also provide volume control (i.e., amplification), which helps to compensate for impaired hearing.

Pursuant to federal law, wireline telephones generally must be hearing aid compatible (i.e., able to couple electromagnetically with a telecoil). Wireless telephones, however, currently are exempt from this requirement. The latter products have been reported to be widely unusable by persons wearing hearing aids, even if they have and are willing to use a telecoil. AAA understands that the FCC is reviewing this issue, and we urge the Commission to guarantee that millions of people with hearing loss are not shut out of the emerging personal communication device "revolution."

AAA estimates that, depending on the company, between 15 and 40 percent of custom hearing aids are ordered with telecoils. Excluding CIC hearing aids (because a typical successful CIC fitting allows for telephone use without a telecoil), this means that an estimated 1.5 to 2.1 million hearing aids do not have telecoils. As noted above, the milder a hearing loss, the smaller the hearing aid a person can wear; therefore, people with mild to moderate hearing loss are less likely to have[8] or to use a telecoil. The more severe a hearing loss, the larger the hearing aid that generally is worn (because more power is needed), and the more likely a person is to have a telecoil.[9]

---

[8] Among other reasons, this is due to space limitations inside a small hearing aid.

[9] This does not necessarily mean that a telecoil will always be used, however, as some consumers do not use, or are not familiar with, their function. Furthermore, a wider range of people with hearing loss could benefit significantly from using telecoils if they were more

Taking into account the number of people affected by severe hearing loss, and likely many people in the moderate hearing loss category, AAA estimates that about 10 percent of persons with hearing loss -- about 2.8 million people -- must use a telecoil to communicate on the telephone, in any environment. Several million more likely would benefit significantly from the use of a telecoil, especially in noisy environments. Hearing aid compatibility (i.e., electromagnetic compatibility), therefore, is extremely important to enable millions of people to function effectively with current telecommunications systems and hearing aids.

Effective acoustic enhancement features also are essential to enable people with hearing loss who do not have hearing aids (i.e., more than 20 million people), or people who wear hearing aids but do not have or use telecoils, to benefit from telecommunications services. Built-in mechanisms, such as volume controls, are very basic ways to enable many people to use telecommunications equipment and services effectively.[10]

We note that telecoil coupling and acoustic assistance mechanisms, such as volume controls, are not mutually exclusive solutions to telecommunications accessibility. For example, AAA estimates that 2 million people who wear hearing aids could also use a telephone amplifier; however, these users would have to remove their hearing aids each time they wanted to use the phone. This is not an acceptable solution to accessibility.

Finally, AAA emphasizes that telecoils are a reasonable and important current technology for telecommunications access. However, exciting technological breakthroughs relevant to accessibility are occurring every day (e.g., high frequency amplification made available by a treble boost feature on telephones). It is vitally important for the FCC to encourage -- and for the telecommunications and hearing aid industries to continually develop and implement -- new technologies that will improve functional results, maintain convenience, and make telecommunications accessible to an ever-broader range of Americans affected by hearing loss and other disabilities.

---

commonly included in the hearing aids that can accommodate them.

[10] A large number of people with normal hearing also benefit greatly from volume controls.

* * *

AAA appreciates the opportunity to submit this information. We would be pleased to provide additional technical advice as the FCC proceeds with the development of telecommunications accessibility requirements.

Sincerely,

Barry Freeman cmm

Barry A. Freeman, Ph.D.
President

BAF:cmm